U.S. Navy Human Health Risk Assessment Guidance

Chapter 11 – Risk Communication Principles and Techniques

Table of Contents

List of Tables

11.0 Introduction

This chapter presents basic concepts and techniques for effective risk communication. Risk communication is the exchange of information about health and/or environmental risks among risk assessors and managers, people who live near or on sites, the general public, news media, and other interest groups. The goals of risk communication are to increase knowledge and understanding, enhance trust and credibility, and resolve conflict.

11.1 The Seven Cardinal Rules of Risk Communication

While overall protection of human health and the environment is one of the threshold criteria established by the National Contingency Plan (NCP) for use in evaluating alternatives and selecting a remedy, community acceptance of the remedy is a modifying criterion. It is vital to effectively communicate with the community in order to obtain input and feedback and ultimately acceptance. The following seven cardinal rules were developed by United States Environmental Protection Agency (USEPA; Covello and Allen) to facilitate risk communication (USEPA, 1988):

Seven Cardinal Rules of Risk Communication

RULE 1. ACCEPT AND INVOLVE THE PUBLIC AS A LEGITIMATE PARTNER

A basic tenet of risk communication in a democracy is that people and communities have a right to participate in decisions that affect their lives, their property, and the things they value.

Guidelines: Demonstrate your respect and sincerity by involving the public early, before important decisions have been made. Make it clear that you understand that decisions about risks are appropriately based on factors other than the size of the risk. Ensure that all parties with an interest or stake in the issue are involved.

Point to consider:

♦ The goal of risk communication in a democracy should not be to diffuse public concerns or replace action; rather it should be to produce an informed public that is involved, interested, reasonable, thoughtful, solution-oriented, and collaborative.

RULE 2. PLAN CAREFULLY AND EVALUATE PERFORMANCE

Successful risk communication cannot and will not occur as an afterthought.

Guidelines: Begin with clear, explicit objectives (providing information to the public, motivating individual action, stimulating emergency response, contributing to the conflict resolution process, etc.). Segment your audience. Target your communications to specific audiences. Recruit spokespeople with good presentation skills and interactive skills. Train staff, including technical staff, in communication skills and reward outstanding performance. Whenever possible, pretest messages. Carefully evaluate your efforts and learn from past mistakes.

Points to consider:

♦ There is no such entity as "the public;" instead, there are many publics, each with its own interests, needs, concerns, priorities, and preferences.

♦ Different risk communication objectives, audiences, and media require different risk communication strategies.

RULE 3. LISTEN TO YOUR AUDIENCE

If you do not listen to people, you should not expect them to listen to you. Communication is a two-way activity.

Guidelines: Do not make assumptions about what people know, think, or want done about risks. Take the time to find out what people are thinking using techniques such as interviews, focus groups, and surveys. Ensure that all parties with an interest or stake in the issue are heard. Recognize emotions. Let people know that you understand what they said, addressing their concerns as well as yours. Recognize the hidden agendas, symbolic meanings, and broader economic or political considerations that often underlie and complicate risk communication efforts.

Point to consider:

♦ People are often more interested in issues such as trust, credibility, competence, control, voluntariness, fairness, caring, and compassion than mortality statistics and the details of quantitative risk assessment.

RULE 4. BE HONEST, FRANK, AND OPEN

Credibility is your most precious asset in communicating risk information.

Guidelines: State your credentials, but do not ask, or expect, to be trusted by the public. If you do not know the answer or are uncertain, say so. Get back to people with answers. Admit mistakes. Disclose risk information at the earliest possible time (with appropriate reservations about reliability). If in doubt, share more information, not less, or people may think you are hiding something. Discuss data uncertainties, strengths and weaknesses, including those identified by other credible sources. Identify worst case estimates as such and cite ranges of risk estimates when appropriate.

Point to consider:

♦ Trust and credibility are difficult to obtain, easy to lose, and almost impossible to fully regain.

RULE 5. COORDINATE AND COLLABORATE WITH OTHER CREDIBLE SOURCES

Guidelines: Closely coordinate all inter-organizational and intra-organizational communications. Devote effort and resources to the slow, hard work of building bridges with other organizations. Use credible intermediaries. Seek joint communications with other trustworthy sources (credible university scientists, medical doctors, trusted local officials, etc.).

Point to consider:

♦ Few things make risk communication more difficult than conflicts and public disagreements with other credible sources.

RULE 6. MEET THE NEEDS OF THE MEDIA

Guidelines: Be open and accessible to reporters. Respect their deadlines. Provide information tailored to the needs of the different media (e.g., graphics and other visual aids for television). Provide background material on complex risk issues. Do not be afraid to follow up on stories with praise or criticism as warranted. Try to establish long-standing relationships of trust with specific editors and reporters.

Point to consider:

♦ Reporters are frequently more interested in politics than in risk, more interested in simplicity than in complexity, more interested in danger than safety.

RULE 7. SPEAK CLEARLY AND WITH COMPASSION

Guidelines: Use simple, non-technical language. Provide vivid, concrete images to which people can relate on a personal level. Use examples and anecdotes that make technical risk data come alive. Avoid distant, abstract, unfeeling language about deaths, injuries, or illnesses. Acknowledge and respond (verbally and with actions) to emotions that people express (anxiety, fear, anger, outrage, helplessness, etc.). Acknowledge and respond to the distinctions that the public considers important in judging and evaluating risks, e.g., voluntariness, controllability, familiarity, dread, origin (nature or man-made), benefits, fairness, catastrophic potential, etc. Use risk comparisons to help put risks in perspective, but avoid comparisons that cut across or ignore distinctions that people consider important. Always try to include a discussion of what actions are being or can be taken. Tell people what you cannot do. Promise only what you can do, and be sure that you do what you promise.

Points to consider:

♦ Regardless of how well you communicate risk information, some people will not be satisfied.

♦ Never let your efforts to inform people about risks prevent you from acknowledging - and saying - that any avoidable illness, injury, or death is a tragedy.

♦ If people are sufficiently motivated, they are quite capable of understanding complex risk information, even if they may not agree with you.

11.2 Stakeholder Involvement

Although time and energy must be invested to promote public involvement, the investment pays significant dividends in community understanding and goodwill. Involving stakeholders in the risk assessment process will help to achieve the following.

♦ **Identify Overlooked Local Knowledge** - Community members may have useful information about the site's history, chemical uses, human activities, and past, current, and future land uses;

♦ **Streamline Efforts** - Community members may have special issues or concerns that, if incorporated into the risk assessment planning at the outset, will reduce the likelihood that the risk assessment and cleanup plans will have to be redone; and

♦ **Gain Acceptance** - Community members who contribute to planning the risk assessment will better understand the process and will more likely give the outcome their support (USEPA, 1999).

It is important to identify specific goals for community involvement for each site at the outset of the process. This will ensure that the level of community involvement is consistent with the complexity and issues associated with each site. During scoping and work plan development, the site team should:

- educate the community about the risk assessment process;

- solicit public concerns, cultures, and values;

- consult with appropriate authorities on unique issues such as tribal concerns;

- identify populations exposed to the site;

- support informed decision making;

- foster communication, and encourage dialogue with community members; and

- discuss the expectations and constraints of the process.

Nothing is more frustrating than to hear a public official make a promise that will not be kept. Take care to avoid establishing expectations that cannot be met. Make certain that the public understands how their comments will be used in the decision-making process. This does not require a detailed responsiveness summary covering every issue. However, there should be some visible connection between community input and outcome.

11.3 Data Presentation Strategies

11.3.1 EFFECTIVELY COMMUNICATING RISK ASSESSMENT INFORMATION

Environmental risk communication can be defined as a science-based approach for communicating in high concern, low trust, sensitive and/or controversial situations. Effective risk communication requires proper training and experience in translating scientific data into clear, accurate, and understandable language.

Risk Assessment Information

There are a variety of effective ways to communicate complicated technical risk assessment information to the public, interest groups, and the news media. One of the key concepts to understand in order to effectively communicate risks to a variety of audiences is that "one-size-does-not-fit-all." At most sites there are a variety of interested parties (e.g., public, regulators, interest groups, media, etc.) that have different backgrounds and interests in the project. It is important to recognize this diversity and to develop a data presentation strategy that will facilitate risk communication with the various groups. The foundation of a successful risk communication strategy is to tailor the risk assessment information provided to the interested parties to their technical background and interests. For example, the executive summary from a Tier II BHHRA would be effective risk assessment information for a regulator, and a Fact Sheet, summarizing significant findings presented in the BHHRA in general terms, would be effective risk assessment information for the general public or the media. Several options for communicating risk assessment are presented below.

- **Fact Sheets** - Fact sheets are a good way to present information on a regular basis. Fact sheets should be limited to one page and should be written at a level that is easily understood (e.g., 6th grade level). This means that there should be no jargon and there should be short, clear, relevant messages.

- **Informational Posters** - Informational posters and graphics are useful ways to present information at open houses or at public facilities that are near the site. Care should be taken

though, to avoid developing informational posters that are perceived as propaganda rather than as vehicles to present complex technical information in a useable format.

- **Internet Web Site -** An Internet web site is a good way to provide up-to-date information in an easily accessible format (Fact sheets can be linked to more detailed information for those who need it.) In addition, a web site provides a mechanism for developing a historical record of issue summaries or fact sheets. However, if this approach is to be utilized, it is important to make sure that the general public does in fact have access to Internet resources (e.g., public libraries have computers connected to the Internet).

- **Public Notices** - Public notices are announcements published in the print media or broadcast on radio or television. They also can be used to publicize opportunities for the community to participate in planning for a risk assessment or to review documents such as a work plan. Major media outlets are not the only or necessarily the best sources to use. Often, ethnic or foreign language publications, niche radio stations, church bulletins, and postings at local gathering places provide more effective coverage. A public notice is a relatively inexpensive way of spreading the word, but is unlikely to generate a large response. As a result, public notices should always be used in conjunction with other techniques.

Selecting the right option, or options, for effective risk communication depends on the level and frequency of interactions with stakeholders and the degree to which stakeholders have been involved in the process.

Risk Assessment Documents

Risk assessment reports are very technical documents that are intended for review by regulators and other interested parties who have a risk assessment background. Therefore, the process of evaluating potential risks should be thoroughly documented (i.e., be transparent), so that the reader can easily understand the underlying assumptions. In practice, transparency means that all of the information that an independent party would need to recreate the final risk numbers is presented in the report in a logical and organized manner. Suggestions for organizing the risk assessment report to maximize transparency are presented below.

- Develop an executive summary that focuses on the key factors in the evaluation that determine the overall risks and summarize those risks. In many cases the executive summary is the only portion of the document that is reviewed by many stakeholders. Therefore, it is very important to develop effective executive summaries that identify the key information and provide "road maps" for more-detailed information in the rest of the document.

- The body of the report should guide the reader through the site-specific risk assessment process that was implemented. In addition, a special focus should be on the key site-specific assumptions that drive the risk assessment. The USEPA has provided recommendations for outlines and content for each section of the risk assessment report (USEPA. 1989. U.S. Environmental Protection Agency. Risk Assessment Guidance for Superfund: Human Health Evaluation Manual Part A. Interim Final. Office of Emergency and Remedial Response. Washington, D.C. 9285.701A. EPA/540/1-89/002. http://www.epa.gov/superfund/programs/risk/ragsa/index.htm). The USEPA has also provided recommendations on the format of the tables used to present information in the risk assessment (USEPA. 1998. Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual Part D, Standardizing Planning, Reporting and Review of Superfund Risk Assessments. Publication # 9285.7-01D. http://www.epa.gov/superfund/programs/risk/ragsd/) .

- Use appendices to document all calculations, models, and results.

11.3.2 FORUMS FOR PUBLIC INTERACTION

There are a variety of forums for interacting with stakeholders and presenting risk information. Choosing the right forum greatly enhances risk communication. Table 11.1 identifies different stakeholder involvement forums and identifies considerations associated with each one.

Table 11.1 - **Stakeholder Involvement Techniques (USEPA, 1999)**

Forum	Approach	Considerations
Interviews	Informal, face-to-face or telephone discussions with community members are an excellent means of obtaining first-hand information about local interests, concerns, and issues. Community interviews should be face-to-face sessions, and may be conducted in citizens' offices or even in their homes. The purpose is to solicit the community's concerns and informational needs and to learn how and when citizens would like to be involved in the process.	Community interviews are also required to the extent practicable by the NCP. Interviews are used for developing the community involvement plan before field work for the RI/FS begins. This technique also provides an opportunity to establish trust and confidence, but is relatively slow and labor-intensive. Interviews offer another opportunity to gather risk assessment-related information from the community.
Small Group Meetings	Getting together with several community members in a private home or local meeting place allows for good interaction and dialogue.	Somewhat less time-consuming than individual interviews, this technique is an excellent way of developing useful information, and establishing rapport and trust.
Focus Groups	Focus groups are more formal than small-group meetings. They are structured to obtain answers to specific questions. Focus-group participants usually are invited to participate. A trained facilitator guides the discussion and elicits reactions to carefully designed questions or proposals.	This technique is an efficient means of obtaining citizen knowledge and expectations if the participants truly represent the community. Because focus groups are designed to elicit information in a structured, one-time way from selected participants, they are generally less effective than other techniques in developing rapport and good working relationships with the community.
Public Meetings	A large public meeting is an efficient way of informing people about activities and getting general feedback. It is also a useful way to move a community through the process together.	A public meeting is an appropriate forum for identifying major community concerns, but is an inappropriate method for communicating detailed information. Large public meetings need to be well planned and facilitated to avoid becoming tedious and unwieldy.
Public Availability Sessions/Open Houses	A public availability session is a less-structured alternative to a public meeting and is generally preferred in situations where public meetings are not required. A risk assessor or other site team member announces that she or he will be available during a convenient time and place for the community to come and talk informally. No appointment is necessary.	This gives community members a chance to converse privately and raise issues they may not feel comfortable raising in other forums.
Community Advisory Group	A community advisory group is a representative group of community members that meets regularly to advise USEPA on issues and review documents throughout the life of the project.	This technique ensures an ongoing link between interested community members and the decision makers, and it generally results in developing good rapport. An advisory group approach requires the decision makers' commitment of time and resources, and the advisory group's commitment to participate regularly.
Cooperative Work Group	A cooperative work group is an extension of the community advisory group. The decision makers commit to work in collaboration with community members to create the work group and make key decisions on a consensus basis.	While this is a very time-intensive technique, and is somewhat of a risk for the decision makers, it has enormous benefits in terms of community support and satisfaction. Decisions are made with the understanding that when a consensus cannot be reached, the decision makers will be responsible for determining the course of action.
Workshops	Workshops are formal, participatory seminars used to explore a subject.	Workshops are a powerful tool for educating small groups of citizens on site-specific issues such as risk assessment, participation opportunities, and how to become contributing participants in the process. The educational, involvement, and empowerment values of workshops make them a desirable component of the community outreach and involvement process. However, they are time-intensive and require commitments from citizens to help develop the workshop curriculum and to participate.

11.4 Additional Sources of Assistance for Risk Communication

The Bureau of Medicine and Surgery (BUMED), acting through the Navy Environmental Health Center (NEHC), located in Norfolk, VA, is responsible for providing Installation Restoration Program risk assessment and risk communication support including:

♦ providing support for health assessments, toxicological profiles, health/safety training, review of human health evaluations, and risk assessments;

♦ interfacing and serving as the Navy coordinator with the Agency for Toxic Substances and Disease Registry (ATSDR) concerning ATSDR's legally mandated public health assessment responsibilities; and

♦ assisting NAVFACENGCOM and installations during public meetings and providing responses to community concerns regarding program health and safety.

Services available through NEHC are consultation, quick-response risk assessments, document reviews, public health support, environmental risk communication and public dialog support, and training (USNAVY, 2001).

11.5 Strategic Partnering

At many sites there are a variety of different stakeholders who have different objectives and concerns. This often leads to a difficult and extensive review process because each group is focused on its individual objectives and may be suspicious of the motivations and intentions of other interested parties. Strategic partnering is working with regulators, stakeholders, and interested parties in order to meet common and individual objectives. The basic concept is consistent with Step 5 of the "Seven Cardinal Rules of Risk Communication" which is to "Coordinate and Collaborate with Other Credible Sources." For example, regulatory agencies often will be much more agreeable to proposals if citizen groups are supportive of proposals (e.g., future land use) that are put forth. In other cases, the public may be more supportive of proposals if regulators agree with the recommendations being made. Establishing strategic partnerships can streamline the review process by developing "ownership" in the approach presented in the document. This often requires negotiation and compromise, however the final result is an approach that each partner can support. This can enhance credibility with other interested parties and reduce fractionalization, resulting in a streamlined review process.

11.6 References

USEPA. 1988. Seven Cardinal Rules of Risk Communication. Office of Public Liason. OPA-97-020.

USEPA. 1999. Risk Assessment Guidance for Superfund: Volume 1 – Human Health Evaluation Manual Supplement to Part A: Community Involvement in Superfund Risk Assessments. Office of Solid Waste and Emergency Response. EPA 540-R-98-042 Agency (5201G) PB99-963303 http://www.epa.gov/oerrpage/superfund/programs/risk/ragsa/ci-ra.htm.

USNAVY. 2001. Navy/Marine Corps Installation Restoration Manual (Draft) 2001 Update. Naval Facilities Engineering Command, Alexandria, VA. http://enviro.nfesc.navy.mil/erb/erb_a/restoration/ir_manual/Default.htm.